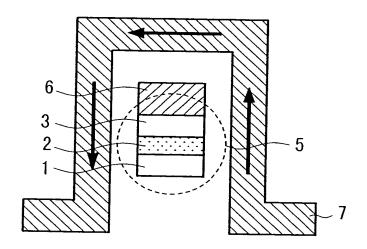


F I G. 1



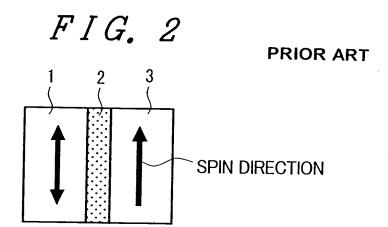


FIG. 3A P = A P

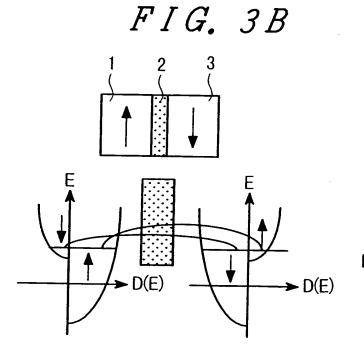
PRIOR ART

1/R~D1(E)•D2(E)

- 1:BEFORE TUNNELING
- 2: AFTER TUNNELING

RESISTANCE: SMALL

WHEN THE SPINS ARE PARALLEL



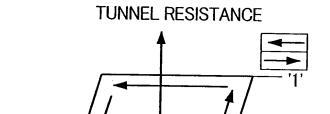
PRIOR ART

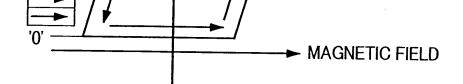
RESISTANCE: LARGE

WHEN THE SPINS ARE ANTI-PARALLEL

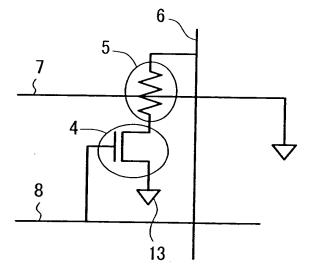
F I G. 4

PRIOR ART





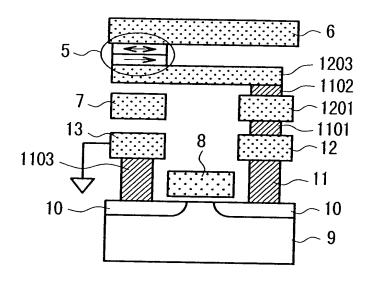
F I G. 5



PRIOR ART

F I G. 6

PRIOR ART



F I G. 7

PRIOR ART

